

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Commissioner of Patents and Trademarks, P.O. Box 1450, Alexandria, VA 22313-1450.

Jodi Hobbs  
Name

Jodi Hobbs  
Signature

Jan 29, 2009  
Date

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Colloca, *et al.*

Serial No.: 10/587,389 - Case No.: ITR0048YP

Art Unit:

Filed: July 24, 2006

Examiner:

For: CHIMPANZEE ADENOVIRUS VACCINE CARRIERS

**RECEIVED**

**FEB 02 2009**

**PCT LEGAL  
ADMINISTRATION**

Mail Stop PCT  
Commissioner for Patents  
Office of PCT Legal Administration  
P.O. Box 1450  
Alexandria, VA 22313-1450

**PETITION TO CORRECT DISCREPANCY IN FILING DATE OF  
US NATIONAL PHASE APPLICATION UNDER 37 C.F.R. § 1.10(c)**

Sir:

1. Pursuant to 37 C.F.R. § 1.10(c), this is a petition to correct the filing date of the above-referenced application, which is a §371 of PCT/EP2005/000558, international filing date of January 18, 2005, based on a discrepancy between the "date-in" specified on the "Express Mail" mailing label and the filing date accorded by the Office.
2. On January 18, 2005, Applicants filed international application PCT/EP2005/000558, which designated the United States and claimed priority to U.S. Provisional Application No. 60/538,799, filed January 23, 2004. A copy of the international application was communicated to the Office from the International Bureau on August 4, 2005.
3. The thirty-month period for paying the basic national fee in the United States expired at midnight on July 24, 2006 (July 23, 2006 being a Sunday).

4. On July 24, 2006, the following documents were filed by Applicants using the "Express Mail Post Office to Addressee" service of the U.S. Postal Service (USPS): (1) Transmittal Letter to the US Designated/Elected Office Concerning a Filing under 35 U.S.C. §371; (2) Declaration and Power of Attorney for Utility or Design Patent Application (37 C.F.R. 1.63); (3) a Sequence Requirement Statement; (4) a diskette containing the Sequence Listing in computer readable form; (5) an Information Disclosure Statement under 37 C.F.R. 1.97 and copies of corresponding references; and (6) a postcard listing the above documents.
5. The above-referenced transmittal letter filed by Applicants included an authorization to charge Deposit Account 13-2755 in the amount of \$3,900 to cover the National Phase filing fees. The transmittal letter further included an authorization by Applicants to charge any additional fees which may be required, or credit any overpayment, to Deposit Account 13-2755.
6. The transmittal letter filed by Applicants included an Express Mail Certificate certifying that the correspondence was being deposited with the US Postal Service as Express Mail "Post Office to Addressee" on July 24, 2006 in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450. The Express Mail Certificate listed Express Mail No. EV321988999US and was signed by Ms. Linda Zehrer and dated July 24, 2006.
7. The postcard listing documents mailed to the Office on July 24, 2006 indicated the Express Mail number EV321988999US. It was date-stamped by the PCT/USPTO with a date of July 25, 2006 and returned to Applicants.
8. On April 14, 2008, Applicants mailed a REQUEST FOR STATUS to the Office indicating that six months or more had passed since the application was filed on July 24, 2006 and requesting that the Office insert the status information and return the letter to Applicants. A postcard listing the Status Inquiry was mailed with the document and date-stamped April 17, 2008 by the Office, indicating that the PTO acknowledged receipt of the Status Inquiry on that date. The REQUEST FOR STATUS and postcard are attached herein as "Exhibit A".

9. On July 10, 2008, a NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 (Form PCT/DO/EO/905) ("Notification") was mailed by the Office indicating, *inter alia*, that an oath or declaration in compliance with 37 C.F.R. 1.497(a)-(b) was required. A copy of the Notification is attached herein as "Exhibit B."
10. A response to the Notification was mailed by Applicants on September 10, 2008. The response included, *inter alia*, a Preliminary Amendment, a Declaration and Power of Attorney, an authorization to charge Deposit Account 13-2755 for the surcharge required by 37 C.F.R. 1.492(h), and an authorization to charge any fees associated with the submission of the response to Deposit Account 13-2755. A copy of the response to the Notification (minus attachments) is attached herein as "Exhibit C."
11. A Notification of Abandonment ("Abandonment Letter") was mailed by the Office of PCT Legal Affairs on December 31, 2008 and received by the Applicants on January 5, 2009. A copy of the Abandonment Letter is attached herein as "Exhibit D." The Abandonment Letter states, *inter alia*, that the above-identified application was abandoned as of midnight 24 July 2006 for failure to pay the full basic national fee by thirty months from the priority date. The Abandonment Letter further states that the NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371, mailed 10 July 2008, is vacated.
12. Attached to this petition is a Declaration of Ms. Linda Zehrer and accompanying exhibits. Ms. Zehrer is employed in Applicants' Legal Administration Department. At the time of filing Application 10/587,389, her job responsibilities included receiving patent correspondence from attorneys to be filed by the "Express Mail Post Office to Addressee" service of the USPS and depositing said correspondence directly with an employee of the USPS. The attached declaration indicates that Ms. Zehrer deposited the documents specified in paragraph (4) above directly with an employee of the USPS on July 24, 2006.
13. Attached to Ms. Zehrer's declaration as "Exhibit D-1" is a copy of the Express mail receipt for Express Mail number EV321988999US indicating that the documents

specified in paragraph (4) above were deposited with the USPS on July 24, 2006. Also attached to Ms. Zehrer's Declaration is a copy of the Transmittal Letter referenced in paragraph (4) above. The Transmittal Letter contains an Express Mail Certificate for Express Mail No. EV321988999US that certifies that Ms. Zehrer received the correspondence and deposited it with the USPS as Express Mail "Post Office to Addressee" on July 24, 2006, in an envelope marked Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

14. Based on the discrepancy noted above between the "date-in" of July 24, 2006 specified on the "Express Mail" mailing label and the filing date of July 25, 2006 accorded by the Office, Applicants respectfully request that the USPTO correct the filing date of the above-referenced application in accordance with the submitted evidence. Specifically, Applicants request that the Office amend the filing date of the above-referenced application to indicate that it was timely filed on July 24, 2006.
15. Any fees required in connection with this Petition may be charged to Merck Deposit Account No. 13-2755. The examiner is invited to contact the undersigned attorney at the telephone number provided below if such would advance the prosecution of the case.

Respectfully submitted,

By   
Alysia A. Finnegan  
Reg. No.: 48,878  
Attorney for Applicants

MERCK & CO., INC.  
P.O. Box 2000  
Rahway, NJ 07065-0907  
(732) 594-2583

Date: January 29, 2009

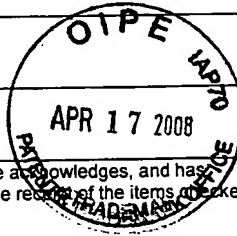
# **Exhibit A**

## **Request for Status**

# EXHIBIT A

## P&T OFFICE ACKNOWLEDGEMENT

ATTORNEY	DATE
Alysia A. Finnegan	4/14/2008
CASE NUMBER/	SERIAL NUMBER
ITR0048YP	10/587,389
DATE FILED	
July 24, 2006	
APPLICANT	
Colloca et al.	
EXPRESS MAIL NO.	



The Patent & Trademark Office acknowledges, and has stamped hereon, the date of the receipt of the items checked below:

- ☐ AMENDMENT
- ☐ APPEAL AND FEE
- ☐ BRIEF
- ☐ CERTIFICATE OF CORRECTION
- ☐ FINAL FEE
- ☒ LETTER *Status Inquiry*
- ☐ INFORMATION DISCLOSURE STATEMENT
- ☐ PTO 1449 & REFERENCES
- ☐ PETITION FOR EXTENSION OF TIME & FEE
- ☐ INVITATION TO CORRECT
- ☐ DEMAND-CHAPTER II & FEE SHEET
- ☐ SEQUENCE STATEMENT
- ☐ SEQUENCE LISTING
- ☐ SEQUENCE DISKETTE



Patent Case No. 1Pw ITR0048YP

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Colloca et al.

Serial No.: 10/587,389

Filed: July 24, 2006

For: CHIMPANZEE ADENOVIRUS VACCINE CARRIERS

Group Art Unit: Not Yet Assigned

Examiner: Not Yet Assigned

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

REQUEST FOR STATUS

Sir:

In the matter of the above-identified application, six months or more have passed since the application was filed on July 24, 2006.

Applicant(s) request(s) that the Patent and Trademark Office insert below the status information requested and return this letter. A duplicate copy of this letter is enclosed for the Patent and Trademark Office records.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the date appearing below.

MERCK & CO., INC.

By Jodi Hobbs Date 4/14/2008

Respectfully submitted,

Alysia A. Finnegan  
By: Alysia A. Finnegan

Attorney \_\_\_\_\_ for Applicant(s)

Reg. No. 48,878

MERCK & CO., INC.

Patent Department, RY60-30

P.O. Box 2000

Rahway, N.J. 07065-0907

(732)594-2583

DATE: April 14, 2008

1. This application is (still pending \_\_\_\_\_).  
(abandoned \_\_\_\_\_).
2. Official Action on this application can be expected on or about \_\_\_\_\_; or
3. Official Action on this application was mailed on \_\_\_\_\_.

(In Duplicate)

## **Exhibit B**

# **Notification of Missing Requirements Under 35 U.S.C. 371**



# EXHIBIT B



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/587,389	Stefano COLLOCA	ITR0048YP
210 MERCK AND CO., INC P O BOX 2000 RAHWAY, NJ 07065-0907		
INTERNATIONAL APPLICATION NO. PCT/EP05/00558		
I.A. FILING DATE		PRIORITY DATE
01/18/2005		01/23/2004

**CONFIRMATION NO. 4904**  
**371 FORMALITIES LETTER**



Date Mailed: 07/10/2008

### NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as an Elected Office (37 CFR 1.495):

- Priority Document
- Copy of the International Application filed on 07/25/2006
- Copy of the International Search Report filed on 07/25/2006
- Information Disclosure Statements filed on 07/25/2006
- Biochemical Sequence Diskette filed on 07/25/2006
- Oath or Declaration filed on 07/25/2006
- Biochemical Sequence Listing filed on 07/25/2006
- U.S. Basic National Fees filed on 07/25/2006
- Priority Documents filed on 07/25/2006
- Specification filed on 07/25/2006
- Claims filed on 07/25/2006
- Abstracts filed on 07/25/2006
- Drawings filed on 07/25/2006

The applicant needs to satisfy supplemental fees problems indicated below.

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Additional claim fees of **\$520** as a non-small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.
- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date. The current oath or declaration does not comply with 37 CFR 1.497(a) and (b) in that it:
  - not executed by inventor Sporeno
- To avoid abandonment, a surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.492(h) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.

#### SUMMARY OF FEES DUE:

Total additional fees required for this application is **\$650** for a Large Entity:

- **\$130** Surcharge.
- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d). Refer to attachment or PAIR document dated see report dated 08/09/06.

Total additional claim fee(s) for this application is **\$520**

- **\$150** for 25 total claims over 20.
- **\$370** for multiple dependent claim surcharge.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

**For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:**

- **For Rules Interpretation, call (571) 272-0951**
- **For Patentin Software Program Help, call Patent EBC at 1-866-217-9197 or directly at 703-305-3028 / 703-308-6845 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.**
- **Send e-mail correspondence for Patentin Software Program Help @ [ebc@uspto.gov](mailto:ebc@uspto.gov)**

**ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTHS FROM THE DATE OF THIS NOTICE OR BY 32 MONTHS FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.**

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.

<https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at <http://www.uspto.gov/ebc>.

**If you are not using EFS-Web to submit your reply, you must include a copy of this notice.**

FRANCINE YOUNG

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Telephone: (703) 308-9140 EXT 215

## **STIC Biotechnology Systems Branch**

### **RAW SEQUENCE LISTING** **ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/587,389  
Source: IFWP  
Date Processed by STIC: 8/9/06

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE **CHECKER VERSION 4.4.0 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):  
U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/10/06

## Raw Sequence Listing Error Summary

<u>ERROR DETECTED</u>	<u>SUGGESTED CORRECTION</u>	SERIAL NUMBER: <u>10/587,389</u>
<b>ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE</b>		
1 ____ Wrapped Nucleics ____ Wrapped Aminos	The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."	
2 ____ Invalid Line Length	The rules require that a line <b>not exceed</b> 72 characters in length. This includes white spaces.	
3 ____ Misaligned Amino ____ Numbering	The numbering under each 5 <sup>th</sup> amino acid is misaligned. Do not use tab codes between numbers; use <b>space characters</b> , instead.	
4 <u>J</u> ____ Non-ASCII	The submitted file was <b>not</b> saved in ASCII(DOS) text, as <b>required</b> by the Sequence Rules. Please ensure your subsequent submission is saved in <b>ASCII text</b> .	
5 ____ Variable Length	Sequence(s) ____ contain n's or Xaa's representing more than one residue. <b>Per Sequence Rules, each n or Xaa can only represent a single residue.</b> Please present the <b>maximum</b> number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.	
6 ____ PatentIn 2.0 ____ "bug"	A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) _____. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. <b>This applies to the mandatory &lt;220&gt;-&lt;223&gt; sections for Artificial or Unknown sequences.</b>	
7 ____ Skipped Sequences (OLD RULES)	Sequence(s) ____ missing. If intentional, please insert the following lines for each skipped sequence: (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading) (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown) This sequence is intentionally skipped Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to <b>include</b> the skipped sequences.	
8 ____ Skipped Sequences (NEW RULES)	Sequence(s) ____ missing. If intentional, please insert the following lines for each skipped sequence. <210> sequence id number <400> sequence id number 000	
9 ____ Use of n's or Xaa's (NEW RULES)	Use of n's and/or Xaa's have been detected in the Sequence Listing. Per 1.823 of Sequence Rules, use of <220>-<223> is <b>MANDATORY</b> if n's or Xaa's are present. In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.	
10 ____ Invalid <213> Response	Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is <b>required</b> when <213> response is Unknown or is Artificial Sequence. (see item 11 below)	
11 ____ Use of <220>	Sequence(s) ____ missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is <b>MANDATORY</b> if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section or use "chemically synthesized" as explanation. (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32), also Sec. 1.823 of Sequence Rules	
12 ____ PatentIn 2.0 ____ "bug"	Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.	
13 ____ Misuse of n/Xaa	"n" can only represent a single <u>nucleotide</u> ; "Xaa" can only represent a single <u>amino acid</u>	



IFWP

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/587,389

DATE: 08/09/2006

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set: N:\CRF4\08092006\J587389.raw

4 <110> APPLICANT: Stefano Colloca  
 5 Alfredo Nicosio  
 6 Elisabetta Sporeno  
 7 Agostino Cirillo  
 8 Bruno Bruni Ercole  
 9 Annalisa Meola  
 11 <120> TITLE OF INVENTION: CHIMPANZEE ADENOVIRUS VACCINE CARRIERS  
 14 <130> FILE REFERENCE: ITR0048YP  
 C--> 16 <140> CURRENT APPLICATION NUMBER: US/10/587,389  
 C--> 16 <141> CURRENT FILING DATE: 2006-07-25  
 16 <150> PRIOR APPLICATION NUMBER: 60/538,799  
 17 <151> PRIOR FILING DATE: 2004-01-23  
 19 <150> PRIOR APPLICATION NUMBER: PCT/EP2005/000558  
 20 <151> PRIOR FILING DATE: 2004-01-18  
 22 <160> NUMBER OF SEQ ID NOS: 125  
 24 <170> SOFTWARE: FastSEQ for Windows Version 4.0

*see item 4 on  
End summary sheet*

*supp. 2, 4-6, 9-12, 14, 15,  
17-18*

**Does Not Comply  
Corrected Diskette Needed**

## ERRORED SEQUENCES

1294 <210> SEQ ID NO: 3  
 1295 <211> LENGTH: 36606  
 1296 <212> TYPE: DNA  
 1297 <213> ORGANISM: Chimpanzee Pan 6 (CV32) Genomic  
 1299 <400> SEQUENCE: 3  
 1300 catcatcaat aatatacctc aaacttttgg tgcgcgttaa tatgcaaag agctgtttga 60  
 1301 atttggggag ggaggaaggt gattggctgc gggagcggcg accgtaggg gcggggcggg 120  
 1302 tgacgttttg atgacgtggc tatgaggcgg agccggtttg caagtctcgc tgggaaaagt 180  
 1303 gacgtcaaac gaggtgtggg ttgaacacgg aaataactca ttttcccgcg ctctctgaca 240  
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 1305 aatgaggaag tgaaaatctg agtaatttcg cgtttatggc agggaggagt atttgccgag 360  
 1306 ggccgagtag actttgaccg attacgtggg ggtttcgatt accgtatttt tcacctaaat 420  
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 1308 tttaaacctg cgctctctag tcaagaggcc actcttgagt gccagcgagt agagttttct 540  
 1309 cctccgcgcc gcgagtcaga tctacacttt gaaagatgag gcacctgaga gacctgccc 600  
 1310 gtaatgtttt cctggctact gggaacgaga ttctggaatt ggtgggtggc gccatgatgg 660  
 1311 gtgacgacct tccagagccc cctaccccat ttgaggcgcc ttcgctgtac gatttgatg 720  
 1312 atctggaggt ggatgtgccc gagagcgacc ctaacgagga ggcggtgaat gatttgttta 780  
 1313 gcgatgccgc gctgtgtggt gccgagcagg ctaatacggg ctctggctca gacagcgatt 840  
 1314 cctctctcca tccccgaga cccggcagag gtgagaaaaa gatccccgag cttaaagggg 900  
 1315 aagagctcga cctgcgtgc tatgaggaat gcttgccctc gagcgatgat gaggaggac 960  
 1316 aggagcgat tccgactgcg gtgaaccagg gagtgaaaac tgcgggcgag agcttttagc 1020  
 1317 tggactgtcc tactctgccc ggacacggct gtaagtcttg tgaatttcat cgcatgaata 1080

## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set : N:\CRF4\08092006\J587389.raw

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 1319 acagtaagtg tgattaactt tagttgggaa ggcagagggg gactgggtgc tgactgggttt 1200  
 1320 atttatgtat atgttttttt atgtgtaggt cccgtctctg acgtagatga gacccccact 1260  
 1321 tcagagtgca tttcatcacc cccagaaatt ggcgaggaac cgcccgaaga tattattcat 1320  
 1322 agaccagttg cagtgaagt caccgggagg agagcagctg tggagagttt ggatgacttg 1380  
 1323 ctacagggtg gggatgaacc tttggacttg tgtaccgga aacgccccag gactaaagt 1440  
 1324 ccacacatgt gtgtttactt aagggtgatg cagtatttat aggggtgtga gtgcaataaa 1500  
 1325 atccgtgttg actttaagt cgtgttttat gactcagggg tggggactgt gggatatataa 1560  
 1326 gcaggtgcag acctgtgttg tcagttcaga gcaggactca tggagatctg gactgtcttg 1620  
 1327 gaagactttc accagactag acagttgcta gagaactcat cggagggagt ctcttacctg 1680  
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 1335 cagcaagagg aggaccgaga agagaacccg agagccggtc tggaccctcc ggtggcggag 2160  
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 1350 cctgcgccgg tgggaacagc catatgtctg ccaccgtgca tgtggcctcg caccgccgca 3060  
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 1366 gattttaaca cagagtcttg aatctttatt tgatttttgc gcgcggtag gccctggacc 4020

see p. 18  
 for error  
 explanation

## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set : N:\CRF4\08092006\J587389.raw

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## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set: N:\CRF4\08092006\J587389.raw

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 1418 gcccaccatg tagaactggt tgacggcctt gtaggcgcag cagcccttct ccacggggag 7140  
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 1420 catgaccttg aggaactggt gcttgaagtc gaggtcgtcg cagccgccct gctcccagag 7260  
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see p. 18



## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set: N:\CRF4\08092006\J587389.raw

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 E--> 1487 ~~tcgaggcgga~~ ~~cgagctgacg~~ ~~gggatcagcc~~ ~~ccgtgcgcgc~~ ~~gcacgtggtc~~ ~~gngcgaacc~~ 11280 *see p. 18*  
 1488 tggtcacggc gtacgagcag accgtgaagg aggagagcaa ctccaaaaa tccttcaaca 11340  
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## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set : N:\CRF4\08092006\J587389.raw

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 1532 gagcgtgatg cagcaggcgg tggcggcgcc gatgcagccc cgcgtggagg cgccttacgt 13980  
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 1538 caagttcaag gcgcgggtga tggctcgcg caagacccc aacggggtgg atgatgatta 14340  
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p. 18

## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set: N:\CRF4\08092006\J587389.raw

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1566 gcagcgccgg caggaccgcg agacgcgcgg ccacggcggc ggcgggcgcc atcgccagca 15960
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1568 tgcccggtgc caccgcggcc cctcgcaact gaagatgctg acttcgcgat gttgatgtgt 16080
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1607 gtctggtgca gttcgccgc gccacagaca cctactcag tctggggaac aagtttagga 18420
1608 accccacggt ggcgcccacg cacaatgtga ccaccagcg cagccagcg ctgacggtgc 18480
1609 gcttcgtgcc cgtggaccgc gaggacaaca cctactgta caaagtgcgc tacacgctgg 18540
1610 ccgtgggcga caaccgcgt ctggacatgg ccagaccta ctttgacatc cgcgcgctgc 18600
1611 tggaccgggg ccctagcttc aaacctact ctggcacgc ctacaacagc ctagctccca 18660
1612 agggagctcc caattccagc cagtgggagc aagcaaaaac aggcaatgg ggaactatgg 18720

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## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set: N:\CRF4\08092006\J587389.raw

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1614 aaattggaac tgacgttaca gcgaatcaga ataaaccaat ttatgccgac aaaacatttc 18840
1615 aaccagaacc gcaagtagga gaagaaaatt ggcaagaaac tgaaaacttt tatggcggta 18900
1616 gagctcttaa aaaagacaca aacatgaaac cttgctatgg ctcctatgct agaccacca 18960
1617 atgaaaaagg aggtcaagct aaacttaaag ttggagatga tggagttcca accaaagaat 19020
1618 tcgacataga cctggctttc tttgatactc cgggtggcac cgtgaacggg caagacgagt 19080
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1620 tggatataaa accaggcaag gatgatgcaa gttctgaaat taacctggtt cagcagtcta 19200
1621 tgcccaacag acccaactac attgggttca gggacaactt tatcggctct atgtactaca 19260
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1625 tcacgaaaaa ccattggtgtg gaggatgaat tgccaaacta ttgcttcccc ttggacggct 19500
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1660 gtccgcgtc ggcgcctgc gggctctct cgtgcagtt cctgcacgc ttcgtgact 21600
1661 ggcccgcacg ccccatggac aagaacccca ccatgaactt actgacgggg gtgccaacg 21660

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## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set : N:\CRF4\08092006\J587389.raw

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1662 gcatgctcca gtcgccccag gtggaaccca ccctgcgcgc caaccaggaa gcgctctacc 21720
1663 ccgccttcga ccgcatgaat caagacatgt aaaaaaccgg tgtgtgtatg tgaatgcttt 21780
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1672 catcatctgg gcctgctcgg agctcatgcc cgggtacatg gccttcatga aagccttcag 22320
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see p. 18

## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set : N:\CRF4\08092006\J587389.raw

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1715 ggacctggcc gacctcatct tccccgagcg cctgcggctg acgctgcgca acgggctgcc 24900
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1733 cgggggcaac atctccttca cccggcgcta cctgctcttt caccgcgggg tgaacttccc 25980
1734 ccgcaacatc ttgcattact accgtcacct ccacagcccc tactactgtt tccaagaaga 26040
1735 ggcagaaacc cagcagcagc agaaaaccag cggcagcagc agctagaaaa tccacagcgg 26100
1736 cggcaggtgg actgaggatc gcggcgaacg agccggcgca gaccggggag ctgaggaacc 26160
1737 ggatctttcc caccctctat gccatcttcc agcagagtcg ggggcaggag caggaaactga 26220
1738 aagtcaagaa ccgttctctg cgctcgctca cccgcagttg tctgtatcac aagagcgaag 26280
1739 accaacttca gcgcactctc gaggacgccg aggtctctct caacaagtac tgcgcgctca 26340
1740 ctcttaaaga gtagcccgcg cccgccaca caccgaaaaa ggcggaatt acgtcaccac 26400
1741 ctgcgccctt cggccgacca tcatgagcaa agagattccc acgccttaca tgtggagcta 26460
1742 ccagccccag atgggcctgg ccgcggcgcg cggccaggac tactccacc gcataactga 26520
1743 gtcagtgcc gggcccgca tgatctcac ggtgaatgac atccgcgcc accgaacca 26580
1744 gatactccta gaacagtcag cgatcacgcg cagccccgc catcacctta atccgcgtaa 26640
1745 ttggcccgcc gccctggtgt accaggaaat tccccagccc acgaccgtac tacttccgcg 26700
1746 agacgcccag gccgaagtcc agctgactaa ctcaggtgtc cagctggccg gcggcgccgc 26760
1747 cctgtgtcgt caccgccccg ctcagggtat aaagcggctg gtgatccgag gcagaggcac 26820
1748 acagctcaac gacgaggtgg tgagctcttc gctgggtctg cgacctgacg gagtctcca 26880
1749 actcgccgga tcggggagat cttccttcac gcctcgtcag gccgtcctga ctttgagag 26940
1750 ttcgtcctcg cagccccgct cgggcggcat cggcactctc cagttcgtgg aggagttcac 27000
E--> 1751 tccctcggtt tacttcaacc cttctccgg cteccccggc cactaccggg acgagttcat 27060
1752 cccgaacttc gacgccatca gcgagtcggt ggacggctac gattgaatgt cccatggtgg 27120
1753 cgcagctgac ctgctcggc ttgcacacct ggaccactgc cgccgcttcc gctgcttcgc 27180
1754 tcgggatctc gccgagtttg cctactttga gctgcccgag gagcaccctc agggcccagc 27240
1755 ccacggagtg cggatcatcg tcgaaggggg cctcgactcc cacctgcttc ggatcttcag 27300
1756 ccagcgaccg atcctggtcg agcgcaaca aggacagacc cttcttactt tgtactgcat 27360
1757 ctgcaaccac cccggcctgc atgaaagtct ttgtgtctg ctgtgtactg agtataataa 27420
1758 aagctgagat cagcgactac tccggaactc attgtgtgt tcctgctatc aaccggtccc 27480
1759 tgttcttcac cgggaacgag accgagctcc agctccagtg taagccccac aagaagatcc 27540

```

see p. 18

## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set: N:\CRF4\08092006\J587389.raw

1760 tcacctggct gttccagggc tccccgatcg ccgttggtcaa ccactgcgac aacgacggag 27600  
 1761 tcttgcctgag cggccctgcc aaccttactt ttccaccg cagaagcaag ctccagctct 27660  
 1762 tccaaccctt cctccccggg acctatcagt gcgtctcagg accctgccat cacaccttcc 27720  
 1763 acctgatccc gaataccaca gcgcgcgtcc ccgctactaa caaccaaact acccaccac 27780  
 1764 gccaccgtcg cgacctttcc tctgaatcta ataccactac cggagggtgag ctccgagggtc 27840  
 1765 gaccaacctc tgggatttac tacggccctt gggagggtgt ggggttaata gcgctaggcc 27900  
 1766 tagttgcggg tgggcttttg gttctctgct acctatacct cccttgctgt tctgacttag 27960  
 1767 tgggtgctgtg ttgctggttt aagaaatggg gaagatcacc ctagtgagct gcggtgcgct 28020  
 1768 ggtggcggtg ttgctttcga ttgtgggact gggcggcgcg gctgtagtga aggagaaggc 28080  
 1769 cgatccctgc ttgcatttca atcccaacaa atgccagctg agttttcagc ccgatggcaa 28140  
 1770 tcggtgcgcg gtactgatca agtgcggatg ggaatgcgag aacgtgagaa tctagtacaa 28200  
 1771 taacaagact cggaacaata ctctcgcgtc cgtgtggcag cccggggacc ccgagtggta 28260  
 1772 caccgtctct gtccccgggt ctgacggctc cccgcgcacc gtgaataata ctttcatttt 28320  
 1773 tgcgcacatg tgcaacacgg tcatgtggat gagcaagcag tacgatatgt ggccccccac 28380  
 1774 gaaggagaa atcgtgggtc tctccatcgc ttacagcctg tgcacggcgc taatcaccgc 28440  
 1775 tatcgtgtgc ctgagcattc acatgctcat cgctattcgc ccagaaata atgccgagaa 28500  
 1776 agagaaacag ccataacacg ttttttcaca cacctgtttt ttacagacaa tgcgtctgtt 28560  
 1777 aaatttttta aacattgtgc tcagtattgc ttatgcctct ggttatgcaa acatacagaa 28620  
 E--> 1778 aaccttttat gtaggatctg atggtacact agaggtacc caatcacaag ccaaggttgc 28680  
 1779 atggtatttt tatagaacca acactgatcc agttaaactt tgtaagggtg aattgccgcg 28740  
 1780 tacacataaa actccactta catttagttg cagcaataat aatcttacac ttttttcaat 28800  
 1781 taaaaaacia tatactggta cttattacag taaaaacttt catacaggac aagataaata 28860  
 1782 ttatactgtt aaggtagaaa atcctaccac tcctagaact accaccacca ccactactgc 28920  
 1783 aaagcccact gtgaaaacta caactaggac caccacaact acagaaacca ccaccagcac 28980  
 1784 aacacttgct gcaactacac acacacacac taagctaacc ttacagacca ctaatgattt 29040  
 1785 gatcgccctg ctgcaaaagg gggataacag caccacttcc aatgaggaga tacccaaata 29100  
 1786 catgattggc attattgttg ctgtagtgtg gtgcatgttg atcatcgct tgtgcatggt 29160  
 1787 gtactatgcc ttctgtaca gaaagcacag actgaacgac aagctggaac acttactaag 29220  
 1788 tgttgaaatt taatttttta gaaccatgaa gatcctaggc ctttttagtt tttctatcat 29280  
 1789 tacctctgct ctttgtgaat cagtggatag agatgttact attaccactg gttctaatta 29340  
 1790 tacactgaaa gggccacct caggtatgct ttctgggtat tgctattttg gaactgcac 29400  
 1791 tgatcaaaact gaattatgca attttcaaaa agggcaaaacc tcaaaactcta aaatctcta 29460  
 1792 ttatcaatgc aatggcactg atctgatact actcaatgtc acgaaagcat atggtggcag 29520  
 1793 ttattattgc cctggacaaa acactgaaga aatgattttt taaaaagtgg aagtgttga 29580  
 1794 tcccaactaca ccaccacca ccacaactat tcataccaca cacacagaac aaacaccaga 29640  
 1795 ggcaacagaa gcagagttgg cttccagggt tcacggagat tcctttgctg tcaatacccc 29700  
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 1797 attagcagtc ataatcatct gcattgtcat ttttgcttgc tgctatagaa ggctttaccg 29820  
 1798 acaaaaatca gaccactgc tgaacctcta tgtttaattt tttccagagc catgaaggca 29880  
 1799 gttagcgctc tagttttttg ttctttgatt ggcattgttt ttaatagtaa aattaccaga 29940  
 1800 gttagcttta ttaaactgt taatgtaact gaaggagata acatcacact agcagggtga 30000  
 1801 gaagggtgctc aaaacaccac ctggacaaaa taccatctag gatggagaga tatttgcacc 30060  
 1802 tggaatgtaa cttattattg cataggagtt aatcttacca ttgttaacgc taaccaatct 30120  
 1803 cagaatgggt taattaaagg acagagtgtt agtgtgacca gtgatgggtg ctataccag 30180  
 1804 catagtttta actacaact tactgtcata ccactgccta cgcctagccc acctagcact 30240  
 1805 accacacaga caaccacata cagtacatca aatcagccta ccaccactac agcagcagag 30300  
 1806 gttgccagct cgtctgggggt ccgagtggca tttttgatgt tggcccatc tagcagtc 30360  
 1807 actgctagta ccaatgagca gactactgaa tttttgtcca ctgtcgagag ccacaccaca 30420  
 1808 gctacctcca gtgccttctc tagcaccgcc aatctctctc cgctttctc tacaccaatc 30480

see p. 18



## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set : N:\CRF4\08092006\J587389.raw

1809 agccccgcta ctactcctag ccccgctcct cttcccactc ccctgaagca aacagacggc 30540  
 1810 ggcatacaat ggcagatcac cctgctcatt gtgatcggtt tggatcctct ggccgtgttg 30600  
 1811 ctctactaca tcttctgccc cgcattcccc aacgcgcacc gcaagccggc ctacaagccc 30660  
 1812 atcgttatcg ggcagccgga gccgcttcag gtggaagggt gtctaaggaa tcttctcttc 30720  
 E--> 1813 tcttttacag tatgggtgatt gaattatgat tcctagacaa ttcttgatca ctattcttat 30780 *see p. 18*  
 1814 ctgcctcctc caagtctgtg ccaccctcgc tctgggtggc aacgccagtc cagactgtat 30840  
 1816 tgggccccttc gcctcctacg tgccttttgc cttcgtcacc tgcactgtct gctgtagcat 30900  
 1817 agtctgcctg cttatcacct tcttccagtt cattgactgg atctttgtgc gcacgccta 30960  
 1818 cctgcgccac cacccccagt accgggacca gcgagtggcg cagctgctca ggctcctctg 31020  
 E--> 1819 ataagcatgc gggctctgct acttttcgcg cttctgctgt tagtgctccc cegtccectc 31080 *p. 18*  
 1820 gacccccggt ccccccactca gtcccccgag gaggttcgca aatgcaaatt ccaagaacct 31140  
 1821 tggaaattcc tcaaatgcta ccgcaaaaaa tcagacatgc atcccagctg gatcatgatc 31200  
 1822 attgggatcg tgaacattct ggccctgcacc ctcatctcct ttgtgattta cccctgcttt 31260  
 1823 gactttgggtt ggaactcgcc agaggcgctc tatctccgcg ctgaacctga cacaccacca 31320  
 1824 cagcatcaac cttaggcaca cgcactacca ccaccacagc ctaggccaca atacatgccc 31380  
 1825 atattagact atgaggccga gccacagcga cccatgctcc ccgctattag ttacttcaat 31440  
 1826 ctaaccggcg gagatgactg acccactggc caataacaac gtcaacgacc ttctcctgga 31500  
 1827 catggacggc cgcgcctcgg agcagcgact cgcccaactt cgcattcgtc agcagcagga 31560  
 1828 gagagccgtc aaggagctgc aggcagccat agccattccac cagtgaaga gaggcattct 31620  
 1829 ctgcctgggtg aaacaggcca agatctccta cggagtcacc cagaccgacc atcgcctctc 31680  
 1830 ctacgagctc ctgcagcagc gccagaagtt cacctgcctg gtcggagtca accccatcgt 31740  
 1831 catcaccag ccagcagtcg ggcgatacca aggggtgcat ccactgctcc tgcgactccc 31800  
 1832 ccgactgctt ccacactctg atcaagacct tctgcggcct ccgcgacctc ctccccatga 31860  
 1833 actaatcacc cctttatcca gtgaaataaa gatcatattg atgatgattt aaataaaaaa 31920  
 1834 aataatcatt tgatttgaaa taaagataca atcatattga tgatttgagt ttaacaaaaa 31980  
 1835 taaagaatca cttacttgaa atctgatacc aggtctctgt ccatgttttc tgccaacacc 32040  
 1836 acctcactcc cctcttccca gctctggtac tgcaggcccc ggccgggctgc aaacttcctc 32100  
 1837 cacacgctga aggggatgtc aaattcctcc tgtccctcaa tcttcatttt atcttctatc 32160  
 1838 agatgtccaa aaagcgcgtc cgggtggatg atgacttcga ccccgctctc ccctacgatg 32220  
 1839 cagacaacgc accgaccgtg ccttcatca acccccctt cgtctcttca gatggattcc 32280  
 1840 aagagaagcc cctgggggtg ttgtccctgc gactggctga ccccgctcacc accaagaacg 32340  
 1841 gggaaatcac cctcaagctg ggagaggggt tggacctcga ctgctcgga aaactcatct 32400  
 1842 ccaacacggc caccaaggcc gccgccccctc tcagtatttc aaacaacacc atttccctta 32460  
 1843 aaactgctgc ccttttctac aacaacaatg gaactttaag cctcaatgtc tccacaccat 32520  
 1844 tagcagtatt tcccacattt aacactttag gcataagtct tggaaacggc cttcagactt 32580  
 1845 caaataagtt gttgactgta caactaactc atctctttac attcagctca aatagcatca 32640  
 1846 cagtaaaaac agacaaaagg ctatatatta actccagtgg aaacagagga cttgaggcta 32700  
 1847 atataagcct aaaaagagga ctagtttttg acggtaatgc tattgcaaca tatattggaa 32760  
 1848 atggcttaga ctatggatct tatgatagtg atggaaaaac aagaccctga attacaaaaa 32820  
 1849 ttggagcagg attaaatttt gatgctaaca aagcaatagc tgtcaaaacta ggcacaggtt 32880  
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 1851 tttggactac ccctgaccca agccctaatt gtcaattact ttcagacaga gatgccaaat 33000  
 1852 ttactctctg tcttataaaa tgcggtagtc aaatactagg cactgtggca gtggcggtg 33060  
 1853 ttactgtagg atcagcacta aatccaatta atgacacagt caaaagcgcc atagttttcc 33120  
 1854 ttagatttga ttccgatggt gtactcatgt caaactcatc aatggtaggt gattactgga 33180  
 1855 actttaggga gggcatagacc actcaaagtg tagcctatac aaatgctgtg ggattcatgc 33240  
 1856 caaatatagg tgcatattcca aaaacccaaa gtaaaacacc taaaaatagc atagtcagtc 33300  
 1857 aggtatatatt aactggagaa actactatgc caatgacact aaccataact ttcaatggca 33360  
 1858 ctgatgaaaa agacacaacc ccagtttaga cctactctat gactttttaca tggcagtgga 33420



## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set : N:\CRF4\08092006\J587389.raw

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1859 ctggagacta taaggacaaa aatattacct ttgctaccaa ctcattctct ttttctaca 33480
1860 tcgcccagga ataatcccac ccagcaagcc aacccctttt cccaccacct ttgtctatat 33540
1861 ggaaactctg aaacagaaaa ataaagttca agtgttttat tgaatcaaca gttttacagg 33600
1862 actcgagcag ttatttttcc tccaccctcc caggacatgg aatacaccac cctctcccc 33660
1863 cgcacagcct tgaacatctg aatgccattg gtgatggaca tgcttttggt ctccacgttc 33720
1864 cacacagttt cagagcgagc cagtctcgga tcggtcaggg agatgaaacc ctccgggcac 33780
1865 tcccgcattc gcacctcaca gctcaacagc tgaggattgt cctcggtggt cgggatcacg 33840
1866 gttatctgga agaagcagaa gagcggcggt gggaatcata gtccgcgaac gggatcgggc 33900
1867 ggtggtgtcg catcaggccc cgcagcagtc gctgccgcgc ccgctccgtc aagctgctgc 33960
1868 tcaggggggt cgggtccagg gactccctca gcatgatgcc cacggccctc agcatcagtc 34020
1869 gtctggtgcg gcgggcgcag cagcgcagtc gaatctcgct caggctactg cagtacgtgc 34080
1870 aacacaggac caccaggttg ttcaacagtc catagttcaa cacgtccag ccgaaactca 34140
1871 tcgcgggaag gatgctaccc acgtggccgt cgtaccagat cctcaggtaa atcaagtggc 34200
1872 gtcacctcca gaagacgctg cccatgtaca tgatctcctt gggcatgtgg cggttcacca 34260
1873 cctcccggtt ccacatcacc ctctggttga acatgcagcc ccggatgatc ctgcggaacc 34320
1874 acagggccag caccgccccg cccgccatgc agcgaagaga ccccggatcc cggcaatgac 34380
1875 aatggaggac ccaccgctcg taccggtgga tcctctggga gctgaacaag tctatgttgg 34440
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1877 ccatatcccc gggcacgggg aactcttgca ggacagcgaa cccgcagaa cagggcaatc 34560
1878 ctgcacata acttacattg tgcattgaca gggatcgca atcaggcagc accgggtgat 34620
1879 cctccaccag agaagcgcggt gtctcggtct cctcacagcg tggtaagggg gccggccgat 34680
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1883 ccgtgcagca gatctagggc ctccaggagt atgaagatcc catcatgcct gatagctctg 34920
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1886 tctcgagca cttcaaaatg aaggtcacgg agatggcacc tctcgcccc gctgtgttgg 35100
1887 tggaaaataa cagccaggtc aaaggtgata cggttctcga gatgttccac ggtggcttcc 35160
1888 agcaaagcct ccacgcgcac atcagaaaca agacaatagc gaaagcgga gggttctcta 35220
1889 attcctcaac catcatgtta cactcctgca ccatccccag ataattttca ttttccagc 35280
1890 cttgaatgat tctgaatagt tcctgaggtt aatccaaagc agccatgata aaaagctcgc 35340
1891 gcagagcacc ctccaccggc attcttaagc acaccctcat aattccaaga tattctgctc 35400
1892 ctgggttcacc tgcagcagat tgacaagcgg aatatcaaaa tctctgccgc gatccctgag 35460
1893 ctctccctc agcaataact gtaagtactc tttcatatcg tctccgaaat ttttagccat 35520
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1897 ttccaggtgc acgtttaggg cctcgggaac aacgatggag taagtgcaag ggggtgcgttc 35760
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1900 cgcgaccctc gtaaaaattg tcgctatgat tgaaaacat cacagagaga cgttcccgg 35940
1901 ggccggcggt aatgattcga gaagaagcat acaccccccg gaacattgga gtccgtgagt 36000
1902 gaaaaaaagc ggccgaggaa gcaatgagga actacaacgc tcactctcaa gtccagcaaa 36060
1903 gcgatgccat gcggatgaag cacaaaattt tcaggtgcgt aaaaaatgta attactcccc 36120
1904 tcttgccag gcagcgaagc tcccgatccc tccagatata catacaaagc ctacagctcc 36180
1905 atagcttacc agcggcgagc agcagcgga cacaacagg gcaagagtca gagaaaagc 36240
1906 tgagctctaa cctgtccgcc cgctctctgc tcaatatata gcccagatc tacactgacg 36300
1907 taaaggccaa agtctaaaaa taccgcgcaa ataatacac acgcccagca cacgcccaga 36360

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## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set: N:\CRF4\08092006\J587389.raw

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 1909 tccgggttcc cacgctacgt catcaaaaca cgactttcaa attccgtcga ccgttaaaaa 36480  
 1910 catcacccgc cccgccccta acggtcgcgc ctcccgagc caatcacctt cctccctccc 36540  
 1911 caaattcaaa cagctcattt gcatattaac gcgcaccaa agtttgaggt atattattga 36600  
 1912 tgatgg 36606

3852 &lt;210&gt; SEQ ID NO: 24

3853 &lt;211&gt; LENGTH: 2883

3854 &lt;212&gt; TYPE: DNA

3855 &lt;213&gt; ORGANISM: Chimpanzee Adenovirus- ChAd 17 Hexon

3857 &lt;400&gt; SEQUENCE: 24

E--> 3858 atgacgaccc catcgatgat gccgcagtggt tcgtacatgc acatctcggg ccaggacgcc 60  
 3859 ~~tcgagtagtacc~~ ~~tgagccccgg~~ ~~gctgggtgcag~~ ~~ttcgccccgg~~ ~~ccaccgagag~~ ~~ctacttcagc~~ 120 *see p. 18*  
 3860 ctgagtaaca agtttaggaa cccacgggtg gcgcccacgc acgatgtgac caccgaccgg 180  
 3861 tctcagcgcc tgacgctgcg gttcattccc gtggaccgcg aggacaccgc gtactcgtac 240  
 3862 aaggcgcggt tcaccctggc cgtggggcgac aaccgcgtgc tggacatggc ctccacctac 300  
 3863 tttgacatcc gcggggtgct ggaccggggt cccactttca agccctactc tggcaccgcc 360  
 3864 tacaactccc tggcccccaa gggcgctccc aactcctgcg agtgggagca agaggaaact 420  
 3865 caggcagttg aagaagcagc agaagaggaa gaagaagatg ctgacggtca agctgaggaa 480  
 3866 gagcaagcag ctacaaaaaa gactcatgta tatgctcagg ctcccccttc tggcgaaaaa 540  
 3867 attagtaaa aggtctgca aataggaacg gacgctacag ctacagaaca aaaacctatt 600  
 3868 tatgcagacc ctacattcca gccgaaccc caaatcgggg agtcacagtg gaatgaggca 660  
 3869 gatgctacag tcgcccggcg tagagtgcta aagaaatcta ctcccatgaa accatgctat 720  
 3870 ggttctctat caagaccac aaatgcta at ggaggtcagg gtgtactaac ggcaaatgcc 780  
 3871 cagggacagc tagaatctca ggttgaaatg caattctttt caacttctga aaacgcccgt 840  
 3872 aacgagacta acaacattca gcccaaattg gtgctgtata gtgaggatgt gcacatggag 900  
 3873 accccggata cgcacctttc ttacaagccc gcaaaaagcg atgacaattc aaaaatcatg 960  
 3874 ctgggtcagc agtccatgcc caacagacct aattacatcg gcttcagaga taactttatc 1020  
 3875 ggctcatgt attacaatag cactggcaac atgggagtg tgcagggtca ggctctcag 1080  
 3876 ttgaatgcag tgggtgactt gcaagacaga aacacagaac tgtcctacca gctcttgett 1140  
 3877 gattccatgg gtgacagaac cagatacttt tccatgtgga atcaggcagt ggacagttaa 1200  
 3878 gaccagatg ttgaatttat tgaaaatcat ggaactgaag acgagctccc caactattgt 1260  
 3879 ttccctctgg gtggcatagg ggtaactgac acttaccagg ctgttaaaac caacaatggc 1320  
 3880 aataacgggg gccagggtgac ttggacaaaa gatgaaactt ttgcagatcg caatgaaata 1380  
 3881 ggggtgggaa acaatttcgc tatggagata aacctcagt ccaacctgtg gagaaacttc 1440  
 3882 ctgtactcca acgtggcgct gtacctacca gacaagctta agtacaacct ctccaatgtg 1500  
 3883 gacatctctg acaaccccaa cactacgat tacatgaaca agcgagtggg ggccccgggg 1560  
 3884 ctggtggact gctacatcaa cctgggcgcg cgtggtcgc tggactacat ggacaacgtc 1620  
 3885 aacccttca accaccaccg caatgcgggc ctgcgctacc gctccatgct cctgggcaac 1680  
 3886 gggcgctacg tgcccttcca catccagggt ccccgagaag tctttgccat caagaacctc 1740  
 3887 ctccctctgc cgggtccta cactacgag tggaaacttc ggaaggatgt caacatggtc 1800  
 3888 ctccagagct ctctgggtaa cgatctcagg gtggacgggg ccagcatcaa gttcgagagc 1860  
 3889 atctgcctct acgccacct ctcccccatg gccacaaca cggcctccac gctcgaggcc 1920  
 3890 atgctcagga acgacaccaa cgaccagtc ttcaatgact acctctccgc cgccaacatg 1980  
 3891 ctctacccca taccgcgcaa cgcaccaaac gtccccatct ccatccctc gcgcaactgg 2040  
 3892 gcggccttcc gcggctgggc cttcaccgc ctcaagacca aggagacccc ctccctgggc 2100  
 3893 tcgggattcg accctacta cactactcg ggtctcatt cctacctgga cggcaccttc 2160  
 3894 tacctcaacc acactttcaa gaagggtctc gtcaccttcg actcctcggg cagctggccg 2220  
 3895 ggcaacgacc gtctgtcac cccaacgag ttcgagatca agcgtcggg cgacggggag 2280  
 3896 ggctacaacg tggcccagtg caacatgacc aaggactggg tcttggtcca gatgctggcc 2340

## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:36

Input Set : N:\SSLM\10587389.txt

Output Set: N:\CRF4\08092006\J587389.raw

```

3897 aactacaaca tcggctacca gggcttctac atcccagaga gctacaagga caggatgtac 2400
3898 tccttcttca ggaacttcca gcccatgagc cggcaggtgg tggaccagac caagtacaag 2460
3899 gactaccagg aggtgggcat catccaccag cacaacaact cgggcttcgt gggctacctc 2520
3900 gccccaccca tgcgcgaggg acaggcctac cccgccaaact tcccctatcc gctcataggc 2580
3901 aagaccgcgg tcgacagcat caccagaaaa aagtctctct gcgaccgcac cctctggcgc 2640
3902 atcccccttct ccagcaactt catgtccatg ggtgcgctct cggacctggg ccagaacttg 2700
3903 ctctacgcca actccgcccc cgccctcgac atgaccttcg aggtcgaccc catggacgag 2760
3904 cccacccttc tctatgttct gttcgaagtc tttgacgtgg tccgggtcca ccagccgcac 2820
3905 cgcggcgctca tcgagaccgt gtacctgcgt acgccttct cggccggcaa cgccaccacc 2880
3906 taa 2883

```

10532 &lt;210&gt; SEQ ID NO: 125

10533 &lt;211&gt; LENGTH: 933

10534 &lt;212&gt; TYPE: PRT

10535 <213> ORGANISM: Chimpanzee Adenovirus- CV68 Hexon *see p. 17*

10537 &lt;400&gt; SEQUENCE: 125

```

10538 Met Ala Thr Pro Ser Met Leu Pro Gln Trp Ala Tyr Met His Ile Ala
10539 1 5 10 15
10540 Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala
10541 20 25 30
10542 Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro
10543 35 40 45
10544 Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu
10545 50 55 60
10546 Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Asn Thr Tyr Ser Tyr
10547 65 70 75 80
10548 Lys Val Arg Tyr Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met
10549 85 90 95
10550 Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser
10551 100 105 110
10552 Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly
10553 115 120 125
10554 Ala Pro Asn Thr Cys Gln Trp Thr Tyr Lys Ala Asp Gly Glu Thr Ala
10555 130 135 140
10556 Thr Glu Lys Thr Tyr Thr Tyr Gly Asn Ala Pro Val Gln Gly Ile Asn
10557 145 150 155 160
10558 Ile Thr Lys Asp Gly Ile Gln Leu Gly Thr Asp Thr Asp Asp Gln Pro
10559 165 170 175
10560 Ile Tyr Ala Asp Lys Thr Tyr Gln Pro Glu Pro Gln Val Gly Asp Ala
10561 180 185 190
10562 Glu Trp His Asp Ile Thr Gly Thr Asp Glu Lys Tyr Gly Gly Arg Ala
10563 195 200 205
10564 Leu Lys Pro Asp Thr Lys Met Lys Pro Cys Tyr Gly Ser Phe Ala Lys
10565 210 215 220
10566 Pro Thr Asn Lys Glu Gly Gln Ala Asn Val Lys Thr Gly Thr Gly
10567 225 230 235 240
10568 Thr Thr Lys Glu Tyr Asp Ile Asp Met Ala Phe Phe Asp Asn Arg Ser
10569 245 250 255
10570 Ala Ala Ala Ala Gly Leu Ala Pro Glu Ile Val Leu Tyr Thr Glu Asn
10571 260 265 270

```

## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:37

Input Set : N:\SSLM\10587389.txt

Output Set: N:\CRF4\08092006\J587389.raw

```

10572 Val Asp Leu Glu Thr Pro Asp Thr His Ile Val Tyr Lys Ala Gly Thr
10573      275      280      285
10574 Asp Asp Ser Ser Ser Ser Ile Asn Leu Gly Gln Gln Ala Met Pro Asn
10575      290      295      300
10576 Arg Pro Asn Tyr Ile Gly Phe Arg Asp Asn Phe Ile Gly Leu Met Tyr
10577 305      310      315      320
10578 Tyr Asn Ser Thr Gly Asn Met Gly Val Leu Ala Gly Gln Ala Ser Gln
10579      325      330      335
10580 Leu Asn Ala Val Val Asp Leu Gln Asp Arg Asn Thr Glu Leu Ser Tyr
10581      340      345      350
10582 Gln Leu Leu Leu Asp Ser Leu Gly Asp Arg Thr Arg Tyr Phe Ser Met
10583      355      360      365
10584 Trp Asn Gln Ala Val Asp Ser Tyr Asp Pro Asp Val Arg Ile Ile Glu
10585      370      375      380
10586 Asn His Gly Val Glu Asp Glu Leu Pro Asn Tyr Cys Phe Pro Leu Asp
10587 385      390      395      400
10588 Ala Val Gly Arg Thr Asp Thr Tyr Gln Gly Ile Lys Ala Asn Gly Thr
10589      405      410      415
10590 Asp Gln Thr Thr Trp Thr Lys Asp Asp Ser Val Asn Asp Ala Asn Glu
10591      420      425      430
10592 Ile Gly Lys Gly Asn Pro Phe Ala Met Glu Ile Asn Ile Gln Ala Asn
10593      435      440      445
10594 Leu Trp Arg Asn Phe Leu Tyr Ala Asn Val Ala Leu Tyr Leu Pro Asp
10595      450      455      460
10596 Ser Tyr Lys Tyr Thr Pro Ala Asn Val Thr Leu Pro Thr Asn Thr Asn
10597 465      470      475      480
10598 Thr Tyr Asp Tyr Met Asn Gly Arg Val Val Ala Pro Ser Leu Val Asp
10599      485      490      495
10600 Ser Tyr Ile Asn Ile Gly Ala Arg Trp Ser Leu Asp Pro Met Asp Asn
10601      500      505      510
10602 Val Asn Pro Phe Asn His His Arg Asn Ala Gly Leu Arg Tyr Arg Ser
10603      515      520      525
10604 Met Leu Leu Gly Asn Gly Arg Tyr Val Pro Phe His Ile Gln Val Pro
10605      530      535      540
10606 Gln Lys Phe Phe Ala Ile Lys Ser Leu Leu Leu Leu Pro Gly Ser Tyr
10607 545      550      555      560
10608 Thr Tyr Glu Trp Asn Phe Arg Lys Asp Val Asn Met Ile Leu Gln Ser
10609      565      570      575
10610 Ser Leu Gly Asn Asp Leu Arg Thr Asp Gly Ala Ser Ile Ser Phe Thr
10611      580      585      590
10612 Ser Ile Asn Leu Tyr Ala Thr Phe Phe Pro Met Ala His Asn Thr Ala
10613      595      600      605
10614 Ser Thr Leu Glu Ala Met Leu Arg Asn Asp Thr Asn Asp Gln Ser Phe
10615      610      615      620
10616 Asn Asp Tyr Leu Ser Ala Ala Asn Met Leu Tyr Pro Ile Pro Ala Asn
10617 625      630      635      640
10618 Ala Thr Asn Val Pro Ile Ser Ile Pro Ser Arg Asn Trp Ala Ala Phe
10619      645      650      655
10620 Arg Gly Trp Ser Phe Thr Arg Leu Lys Thr Lys Glu Thr Pro Ser Leu

```

## RAW SEQUENCE LISTING

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:37

Input Set : N:\SSLM\10587389.txt

Output Set : N:\CRF4\08092006\J587389.raw

```

10621          660          665          670
10622 Gly Ser Gly Phe Asp Pro Tyr Phe Val Tyr Ser Gly Ser Ile Pro Tyr
10623          675          680          685
10624 Leu Asp Gly Thr Phe Tyr Leu Asn His Thr Phe Lys Lys Val Ser Ile
10625          690          695          700
10626 Thr Phe Asp Ser Ser Val Ser Trp Pro Gly Asn Asp Arg Leu Leu Thr
10627 705          710          715          720
10628 Pro Asn Glu Phe Glu Ile Lys Arg Thr Val Asp Gly Glu Gly Tyr Asn
10629          725          730          735
10630 Val Ala Gln Cys Asn Met Thr Lys Asp Trp Phe Leu Val Gln Met Leu
10631          740          745          750
10632 Ala His Tyr Asn Ile Gly Tyr Gln Gly Phe Tyr Val Pro Glu Gly Tyr
10633          755          760          765
10634 Lys Asp Arg Met Tyr Ser Phe Phe Arg Asn Phe Gln Pro Met Ser Arg
10635          770          775          780
10636 Gln Val Val Asp Glu Val Asn Tyr Lys Asp Tyr Gln Ala Val Thr Leu
10637 785          790          795          800
10638 Ala Tyr Gln His Asn Asn Ser Gly Phe Val Gly Tyr Leu Ala Pro Thr
10639          805          810          815
E--> 10640 Met Arg Gln Gly Gln Pro Tyr Pro Ala Xaa Tyr Pro Tyr Pro Leu Ile
10641          820          825          830
10642 Gly Lys Ser Ala Val Thr Ser Val Thr Gln Lys Lys Phe Leu Cys Asp
10643          835          840          845
10644 Arg Val Met Trp Arg Ile Pro Phe Ser Ser Asn Phe Met Ser Met Gly
10645          850          855          860
10646 Ala Leu Thr Asp Leu Gly Gln Asn Met Leu Tyr Ala Asn Ser Ala His
10647 865          870          875          880
10648 Ala Leu Asp Met Asn Phe Glu Val Asp Pro Met Asp Glu Ser Thr Leu
10649          885          890          895
10650 Leu Tyr Val Val Phe Glu Val Phe Asp Val Val Arg Val His Gln Pro
10651          900          905          910
E--> 10652 His Arg Gly Val Ile Glu Ala Val Tyr Xaa Arg Thr Pro Phe Ser Ala
10653          915          920          925
10654 Gly Asn Ala Thr Thr
10655          930
E--> 10658 - 1 -

```

*see p. 18**delete*

## VARIABLE LOCATION SUMMARY

DATE: 08/09/2006

PATENT APPLICATION: US/10/587,389

TIME: 10:06:38

Input Set : N:\SSLM\10587389.txt

Output Set: N:\CRF4\08092006\J587389.raw

*error explanation*Use of n's or Xaa's (NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing.

Use of &lt;220&gt; to &lt;223&gt; is MANDATORY if n's or Xaa's are present.

in &lt;220&gt; to &lt;223&gt; section, please explain location of n or Xaa, and which residue n or Xaa represents.

Seq#:3; N Pos. 3592,7705,11272,11275,15203,24396,27010,28655,30744,31045

Seq#:24; N Pos. 63 / /

Seq#:125; Xaa Pos. 826,922

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/587,389

DATE: 08/09/2006

TIME: 10:06:38

Input Set : N:\SSLM\10587389.txt

Output Set: N:\CRF4\08092006\J587389.raw

L:16 M:270 C: Current Application Number differs, Replaced Current Application No  
L:16 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:1359 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:3  
M:340 Repeated in SeqNo=3  
L:3859 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:24  
L:10640 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:125  
M:340 Repeated in SeqNo=125  
L:10658 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:125

# **Exhibit C**

## **Response to Notification**



CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Jodi Hobbs                      Jodi Hobbs                      09/10/2008  
Name                                      Signature                                      Date

PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Colloca <i>et al.</i>		
Serial No.:	10/587,389	Case No.:	ITR0048YP
Filing Date:	July 24, 2006		
For:	CHIMPANZEE ADENOVIRUS VACCINE CARRIERS		

Art Unit:  
Examiner:

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RESPONSE TO NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C.  
371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)  
AND PRELIMINARY AMENDMENT UNDER 37 C.F.R. §1.115**

Sir:

This communication is in response to the outstanding Notification of Missing Requirements (copy attached), mailed July 10, 2008, in the above-identified application, having a two-month period for response set to expire September 10, 2008.

In response thereto, enclosed is a Declaration and Power of Attorney signed by all of the inventors except Elisabetta Sporeno, who is deceased. Applicants note that the Declaration was executed by Mr. Paolo Palozzolo, executor of the estate of Ms. Sporeno, on her behalf. Also enclosed is an authorization to charge Deposit Account No. 13-2755 for the surcharge required by 37 C.F.R. 1.492(h).

Applicants further enclose herewith a corrected Sequence Listing in compliance with 37 C.F.R. §§ 1.821 to 1.825, along with a corresponding Sequence Listing in computer readable form.

Any fees associated with the submission of this amendment and accompanying response to the Notice to File Missing Parts may be charged to Merck Deposit Account No. 13-2755.

**AMENDMENTS TO THE SPECIFICATION** appear on page 3 of this paper.

**AMENDMENTS TO THE CLAIMS** are reflected in the listing of claims which begins on page 3 of this paper

**REMARKS** begin on page 7 of this paper.

Please amend the application as follows:

**IN THE SPECIFICATION:**

Please delete the section titled "CROSS-REFERENCE TO RELATED APPLICATIONS", appearing on page 1, lines 4-6, and replace with the following new section:

**CROSS-REFERENCE TO RELATED APPLICATIONS**

This application is a §371 National Stage Application of PCT/EP2005/000558, international filing date of January 18, 2005, which claims the benefit of U.S. Provisional Application No. 60/538,799, filed January 23, 2004, now expired, herein incorporated by reference.

Please enter the corrected Sequence Listing provided herewith into the Specification.

## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1. (Currently Amended) ~~An isolated A replication-defective chimpanzee vector which is at least partially deleted in E1 and devoid of E1 activity~~ nucleic acid sequence comprising a sequence of nucleotides selected from the group consisting of:

- a) SEQ ID NO: 1; and
- b) SEQ ID NO: 2; and
- c) ~~a nucleic acid sequence complementary to the sequence of (a) or (b).~~

Claim 2. (Currently Amended) An isolated recombinant chimpanzee ~~adenovirus~~ serotype comprising ~~a any combination of hexon and fiber~~ a nucleic acid sequence encoding a hexon protein, the nucleic acid sequence ~~sequences~~ selected from the group ~~consisting groups of:~~

- a) ~~a hexon gene sequence selected from the group consisting of~~ SEQ ID NOS: 16-25, 41, 43, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, and 117; ~~and~~
- b) ~~a fiber gene sequence selected from the group consisting of~~ SEQ ID NOS: ~~6-15, 42, 44, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76 and 78.~~

Claim 3. (Currently Amended) An isolated recombinant chimpanzee ~~adenovirus~~ serotype comprising ~~any combination of hexon and fiber~~ a nucleic acid sequence encoding a fiber protein, the nucleic acid sequence ~~sequences derived from an adeonovirus~~ selected from the group consisting of: SEQ ID NOS: 6-15, 42, 44, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76 and 78. ~~isolates consisting of ECACC accession numbers 03121201 (ChAd4), 03121202 (ChAd5), 03121203 (ChAd7), 03121204 (ChAd9), 03121205 (ChAd10), 03121206 (ChAd11), 03121207 (ChAd16), 03121208 (ChAd17), 03121209 (ChAd19) and 03121210 (ChAd20).~~

Claim 4. (Currently Amended) A replication defective chimpanzee adenoviral (ChAd) vector comprising a nucleotide sequence derived from an adeonovirus selected from the group of isolates consisting of ECACC accession numbers 03121201 (ChAd4), 03121202 (ChAd5), 03121203 (ChAd7), 03121204 (ChAd9), 03121205 (ChAd10), 03121206 (ChAd11), 03121207 (ChAd16), 03121208 (ChAd17), 03121209 (ChAd19) and 03121210 (ChAd20) and a transgene which encodes at least one immunogen operatively linked to regulatory sequences which direct expression of said transgene in mammalian cells, wherein said vector is at least partially deleted in E1 and devoid of E1 activity ~~lacks the nucleotide which~~

~~comprises at least one adenoviral gene selected from the group consisting of adenoviral E1, E2, E3, and E4.~~

Claim 5. (Canceled)

Claim 6. (Currently Amended) A The replication defective ChAd vector of claim 1 which comprises a deletion/disruption in the E1 nucleotide sequence in the region from bp 460 to bp 3542 of SEQ ID NO: 1 or from bp 457 to bp 3425 of SEQ ID NO:2.

Claim 7. (Canceled)

Claim 8. (Currently Amended) The replication-defective ChAd vector according to claim 6 wherein the vector further comprises a ~~deletion/disruption in the E1 nucleotide sequence in the region from bp 460 to bp 3542 of SEQ ID NO: 1 or from bp 457 to bp 3425 of SEQ ID NO: 2~~ and further wherein the vector comprises a transgene encoding at least one tumor associated antigen (TAA) operatively linked to a promoter capable of directing expression of the transgene.

Claim 9-21. (Canceled)

Claim 22. (Currently Amended) A method of eliciting an immune response in a ~~naïve~~ mammal comprising administering to said mammal a sufficient amount of a the ChAd vector of claim 46 ~~which comprises a chimpanzee adenovirus genome containing at least a functional deletion of its E1 gene, a nucleotide encoding a target antigen and a promoter sequence capable of directing expression of the nucleotide sequence encoding the target antigen,~~ wherein administration of the ChAd vector elicits a primary immune response.

Claim 23-29. (Canceled)

Claim 30. (Currently Amended) The method of Claim ~~27~~ 22 wherein the immune response comprises the production of antigen-specific CD8+ T cells.

Claim 31-34. (Canceled).

Claim 35. (Currently Amended) A method of breaking host tolerance to a self-antigen comprising:

(a) priming a host to respond to a self-antigen by administering a first vaccine composition comprising a nucleotide sequence encoding a self-antigen against which an antigen-specific immune response is desired, thereby eliciting a primed response; and

(b) boosting the primed immune response of step (a) by administering a second vaccine composition comprising a recombinant ChAd vector containing at least a functional deletion of its E1 gene, and in the site of the E1 gene deletion, a sequence comprising a promoter capable of directing expression of DNA encoding the same self-antigen delivered in the priming step, wherein administration of the boosting composition elicits an immune response which has the effect of breaking host tolerance to the self-antigen, wherein the ChAd vector is derived from an adenovirus selected from the group consisting of: ChAd3, ChAd6, ChAd20, ChAd4, ChAd5, ChAd7, ChAd9, ChAd10, ChAd11, ChAd16, ChAd17, ChAd19, ChAd8, ChAd22, ChAd24, ChAd26, ChAd30, ChAd31, ChAd37, ChAd38, ChAd44, ChAd63 and ChAd82.

Claim 36-41. (Canceled)

Claim 42. (Currently Amended) The method of claim 35 wherein the first and second vaccine compositions are both comprise ChAd vectors characterized by different ChAd serotypes.

Claim 43. (New) A recombinant chimpanzee adenoviral (ChAd) vector which is at least partially deleted in E1 and devoid of E1 activity, wherein the adenoviral vector is derived from a chimpanzee adenovirus serotype selected from the group consisting of: ChAd3, ChAd6, ChAd20, ChAd4, ChAd5, ChAd7, ChAd9, ChAd10, ChAd11, ChAd16, ChAd17, ChAd19, ChAd8, ChAd22, ChAd24, ChAd26, ChAd30, ChAd31, ChAd37, ChAd38, ChAd44, ChAd63 and ChAd82.

Claim 44 (New) An isolated host cell comprising the recombinant adenoviral vector of claim 43.

Claim 45 (New) A method for producing recombinant, replication-defective chimpanzee adenovirus particles comprising:

- (a) transfecting a recombinant adenoviral vector of claim 1 into a population of cells; and
- (b) harvesting the resulting recombinant, replication-defective adenovirus.

Claim 46            (New)            The recombinant ChAd vector of claim 43, further comprising a heterologous nucleic acid which encodes at least one immunogen operatively linked to regulatory sequences which direct expression of said heterologous nucleic acid in mammalian cells.

Claim 47            (New)            The recombinant ChAd vector of claim 43, wherein the adenoviral vector is derived from ChAd3 or ChAd6.

Claim 48            (New)            The recombinant ChAd vector of claim 47, wherein the vector further comprises at least a partial deletion of nucleotide sequences which encode the adenovirus E3 protein.

Claim 49            (New)            The recombinant ChAd vector of claim 47, wherein the vector is completely deleted in E1.

Claim 50            (New)            The isolated host cell of claim 44, wherein the host cell is a 293 cell or a PER.C6™ cell.

### **REMARKS**

Applicants respectfully request consideration of the application in view of the foregoing amendments and the following remarks.

The Specification has been amended to update status information for priority application 60/538,799 and to indicate that this application is a §371 National Stage Application of PCT/EP2005/000558.

Claims 5, 7, 9-21, 23-29, 31-34, and 36-41 are canceled herein without prejudice to pursuing the subject matter of said claims in a later filed divisional application(s).

Claim 1 is amended herein to claim a replication-defective chimpanzee adenovirus vector which is at least partially devoid of E1 and devoid of E1 activity. Support for the amendment can be found, *inter alia*, in the Specification on page 16, lines 9-24.

Claim 2 is amended herein to remove part (b) of the claim, which species fiber sequences, which are now described in amended claim 3. Support for the amendments to claims 2 and 3 can be found, *inter alia*, in original claim 2.

Claim 4 is amended herein to indicate that the replication defective ChAd vector is at least partially devoid of E1 and devoid of E1 activity. Support for the amendment can be found, *inter alia*, in the Specification on page 16, lines 9-24.

Claims 6, 22, and 30 are amended herein to change their dependencies.

Claim 8 is amended herein to indicate that the transgene is operatively linked to a promoter capable of directing its expression. Support for the amendment can be found, *inter alia*, in original claim 5.

Claim 22 is amended herein to depend from new claim 46.

Claim 35 is amended herein to specify the serotype of the adenovirus from which the ChAd vector is derived. Support for this amendment can be found, *inter alia*, in original claim 31.

New claims 42-50 are added. Support for the new claims can be found, *inter alia*, in original claims 1,5,16, and 17. No new matter has been added by the amendments herein.

### ***Sequence Rules***

In accordance with 37 CFR §§ 1.821 to 1.825, a substitute Sequence Listing and corresponding substitute computer readable form are provided herein to correct errors specified on the Notification of Missing Requirements. Specifically, the "n's" present in nucleotide sequences set forth in SEQ ID NOs: 3 and 24 have been defined as "n = A, T, C, or G." Further, the Xaa's present in SEQ ID NO:125 have been changed to Asn at position 826 and Leu at



position 922. The correct sequence for SEQ ID NO:125 was present in the priority application in Figure 31. Therefore, the correction to the Sequence Listing submitted herewith adds no new matter.

***Oath or Declaration of the Inventors***

In response to the Notification of Missing Requirements under 35 U.S.C. 371, provided herewith is a declaration of the inventors in compliance with 37 C.F.R. §1.497 (a) and (b). The declaration is signed by inventors Agostino Cirillo, Stefano Colloca, Bruno Bruni Ercole, Annalisa Meola, and Alfredo Nicosia. The declaration is also signed by Mr. Paolo Palozzolo, executor of the estate of deceased inventor Elizabeta Sporeno, on her behalf.

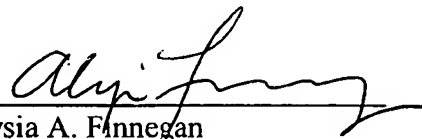
***Summary***

Applicants respectfully submit that all claims are in condition for allowance and a favorable action on the merits is earnestly solicited.

If the Examiner believes that a telephone conference would be of value, he is requested to call the undersigned attorney at the number listed below.

Respectfully submitted,

By



Alysia A. Finnegan

Reg. No. 48,878

Attorney for Applicant(s)

MERCK & CO., INC.

P.O. Box 2000

Rahway, New Jersey 07065-0907

(732) 594-2583

Date: September 10, 2008

# **Exhibit D**

## **Notification of Abandonment**

31 DEC 2008



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
www.uspto.gov

MERCK AND CO., INC  
P O BOX 2000  
RAHWAY NJ 07065-0907

In re Application of	:	
COLLOCA et al.	:	NOTIFICATION
Application No.: 10/587,389	:	
PCT No.: PCT/EP2005/000558	:	
Int. Filing Date: 18 January 2005	:	
Priority Date: 23 January 2004	:	
Attorney's Docket No.: ITR0048YP	:	
For: CHIMPANZEE ADENOVIRUS	:	
VACCINE CARRIERS	:	

This application is before the Office of PCT Legal Affairs for consideration of matters arising under 35 U.S.C. 371.

### BACKGROUND

On 18 January 2005, applicants filed international application PCT/EP2005/000558, which designated the United States and claimed a priority date of 23 January 2004. A copy of the international application was communicated to the United States Patent and Trademark Office (USPTO) from the International Bureau on 04 August 2005. The thirty-month period for paying the basic national fee in the United States expired at midnight on 24 July 2006 (23 July 2006 being a Sunday).

A transmittal letter was filed by applicants for entry into the national stage in the United States which was accompanied by, *inter alia*, the basic national fee and a declaration of inventors. These papers were date-stamped 25 July 2006 by the USPTO.

On 10 July 2008, a NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 (Form PCT/DO/EO/905) was mailed indicating, *inter alia*, that an oath or declaration in compliance with 37 CFR 1.497(a)-(b) was required.

### DISCUSSION

The above-identified application was abandoned as of midnight 24 July 2006 for failure to pay the full U.S. basic national fee by thirty months from the priority date. (USPTO records

show the payment as having been received 25 July 2006, one day late.) Accordingly, the NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 mailed 10 July 2008 is hereby VACATED.

The Transmittal Letter date-stamped 25 July 2006 includes a certification that the papers were mailed by Express mail on 24 July 2006. Accordingly, applicants may wish to consider filing a petition under 37 CFR 1.10(c).

### CONCLUSION

For the reasons set forth above, the application is ABANDONED.

The NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 (Form PCT/DO/EO/905) mailed 10 July 2008 is VACATED.

Applicants may wish to consider filing a petition under 37 CFR 1.10(c).

Any further correspondence with respect to this matter may be filed electronically via EFS-Web or if mailed should be addressed to Mail Stop PCT, Commissioner for Patents, Office of PCT Legal Administration, P.O. Box 1450, Alexandria, Virginia 22313-1450, with the contents of the letter marked to the attention of the Office of PCT Legal Administration.

This application is being forwarded to the National Stage Processing Branch of the Office of PCT Operations for preparation and mailing of a NOTIFICATION OF ABANDONMENT.

/Daniel Stemmer/

Daniel Stemmer  
Legal Examiner  
PCT Legal Affairs  
Office of Patent Cooperation Treaty  
Legal Administration  
Telephone: (571) 272-3301  
Facsimile: (571) 273-0459

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Commissioner of Patents and Trademarks, P.O. Box 1450, Alexandria, VA 22313-1450.

Jodi Hobbs  
Name

Jodi Hobbs  
Signature

Jan 29, 2009  
Date

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Colloca, *et al.*

Serial No.: 10/587,389 - Case No.: ITR0048YP

Filed: July 24, 2006

For: CHIMPANZEE ADENOVIRUS VACCINE CARRIERS

Art Unit:

Examiner:

Mail Stop PCT  
Commissioner for Patents  
Office of PCT Legal Administration  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RECEIVED**

**FEB 02 2009**

**PCT LEGAL  
ADMINISTRATION**

**DECLARATION OF LINDA M. ZEHRER**

Sir:

I, Linda M. Zehrer, hereby declare the following:

1. I have been employed by Merck & Co., Inc. beginning in 1987 and currently hold the title of Staff Associate I in the Legal Administration Department.

2. In July 2006, my position title was Docket Specialist/Team Leader. At that time, my job responsibilities at Merck included receiving correspondence from attorneys in the Merck Patent Department to be sent to the US Patent & Trademark Office (USPTO) through the Express Mail "Post Office to Addressee" service of the US Postal Service (USPS).

3. It is Applicants' practice for a Docket Specialist to deposit all correspondence to be sent to the USPTO via the Express Mail "Post Office to Addressee" service of the USPS ("Express Mail") directly with an employee of the USPS. It is further Applicants practice for the Docket Specialist who is responsible for delivering all Express Mail correspondence to an employee of the USPS to sign all "Express Mail Certificates," which are stamped on the documents to be filed via Express Mail. The USPS employee who receives the Express Mail

correspondence from that day then writes the "date in" and "time in" on the Express Mail receipt(s) and returns the filled-in "Customer copy" of the receipt(s) to the Docket Specialist. The Docket Specialist then reviews the Customer Copies of the Express Mail receipt(s) for that day to confirm that the USPS employee wrote the correct date under "date-in" on the Express Mail receipt.

4. It is also Applicants practice to include a postcard in the Express Mail envelope which lists all of the documents included therein. Besides a list of documents, the postcard indicates, *inter alia*, Applicants' docket number, the date of mailing, the Express Mail number, and the Title of the Invention. Under "date" on the postcard, it is Applicants' practice to write the date that the correspondence is being personally delivered to an employee of the USPS. Once the postcard is received by an employee of the USPTO, it is stamped with the date and returned to Applicants.

5. On July 24, 2006, I was the Docket Specialist assigned to deliver Applicants' Express Mail correspondence directly to an employee of the USPS. I received the correspondence from Applicants related to Application No. 10/587,389 and signed the "Express Mail Certificates" certifying that I was depositing the correspondence with the USPS as Express Mail "Post Office top Addressee" in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450. I then personally delivered the correspondence to an employee of the USPS.

6. Attached hereto as "Exhibit A-1" is a copy of the Transmittal Letter to the US Designated/Elected Office Concerning a Filing under 35 U.S.C. §371 for the above-referenced application. The Transmittal Letter contains an Express Mail Certificate for Express Mail No. EV321988999US that certifies that I received this correspondence and deposited it with the USPS as Express Mail "Post Office to Addressee" on July 24, 2006, in an envelope marked Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

7. Attached hereto as "Exhibit B-1" is a copy of the Sequence Requirement Statement for the above-referenced application. The Sequence Requirement Statement contains an Express Mail Certificate for Express Mail No. EV321988999US that certifies that I received this correspondence and deposited it with the USPS as Express Mail "Post Office to Addressee" on July 24, 2006, in an envelope marked Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

8. Attached hereto as "Exhibit C-1" is a copy of the Information Disclosure Statement under 37 C.F.R. 1.97 for the above-referenced application. The Information Disclosure Statement contains an Express Mail Certificate for Express Mail No. EV321988999US that certifies that I received this correspondence and deposited it with the USPS as Express Mail "Post Office to Addressee" on July 24, 2006, in an envelope marked Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

9. Attached hereto as "Exhibit D-1" is a photocopy of the "Customer Copy" of the Express Mail receipt for Express Mail No. EV321988999US. The receipt shows the "Date in" as July 24, 2006. If the USPS employee who received Applicant's correspondence for delivery via Express Mail on July 24, 2006 had written an incorrect date on the Express Mail receipt, the Docket Specialist reviewing the "Customer Copy" of the Express Mail receipt would have brought the error to the attention of the attorney responsible for the application. In this case, I reviewed the "date-in" on the Express Mail receipt and confirmed that it correctly indicated July 24, 2006.

10. Attached hereto as "Exhibit E-1" is a copy of the postcard included in the Express Mail envelope for Application No. 10/587,389 and returned to Applicants by the USPTO. The postcard indicates that the Express Mail envelope for Express Mail No. EV321988999US included, *inter alia*, the transmittal and Declaration and Power of Attorney for the application at issue. The date indicated by Applicants on the postcard is July 24, 2006. The date stamped "received PCT/PTO" is July 25, 2006.

11. I hereby declare that all statements made herein of my own knowledge are true and that all statements made of information and belief are believed to be true. I further declare that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

Date: January 29, 2009

By Linda M. Zehrer  
Linda M. Zehrer

## **Exhibit A-1**

### **Transmittal Letter to the US Designated/Elected Office Concerning a Filing Under 35 U.S.C. § 371**



U. S. PATENT AND TRADEMARK OFFICE  
U.S. DEPARTMENT OF COMMERCE

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371**

ATTORNEY'S DOCKET NUMBER

ITR0048YP

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

INTERNATIONAL APPLICATION NO.

PCT/EP2005/000558

INTERNATIONAL FILING DATE

1/18/2005

PRIORITY DATE CLAIMED

January 23, 2004

TITLE OF INVENTION

CHIPANZEE ADENOVIRUS VACCINE CARRIERS

APPLICANT(S) FOR DO/EO/US

Stefano Colloca, Alfredo Nicosio, Elisabetta Sporeno, Agostino Cirillo, Bruno Bruni Ercole, Annalisa Meola

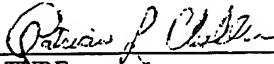
JUL 2 2004

**Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:**

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures [35 U.S.C. 371(f)]. The submission must include items (5), (6), (9) and (21) indicated below.
4. ☐ The US has been elected (PCT Article 31).
5. ☒ A copy of the International Application as filed [35 U.S.C. 371(c)(2)]
  - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
  - b. ☒ has been communicated by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed [35 U.S.C. 371(c)(2)].
  - a. ☐ is attached hereto
  - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 [35 U.S.C. 371(c)(3)].
  - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ have been communicated by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 [35 U.S.C. 371(c)(3)].
9. ☒ An oath or declaration of the inventor(s) [35 U.S.C. 371(c)(4)].
10. ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 [35 U.S.C. 371(c)(5)].

**Items 11 to 20 below concern other document(s) or information included:**

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☐ A preliminary amendment.
14. ☐ An Application Data Sheet under 37 CFR 1.76.
15. ☐ A substitute specification.
16. ☐ A power of attorney and/or change of address letter.
17. ☒ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821 - 1.825.
18. ☐ A second copy of the published International Application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☐ Other items or information:

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)		INTERNATIONAL APPLICATION NO. PCT/EP2005/000558		ATTORNEY'S DOCKET NUMBER ITR0048YP	
The following fees are submitted:				CALCULATIONS	PTO USE ONLY
21. <input checked="" type="checkbox"/> Basic national fee.....\$300				\$300.00	
22. <input checked="" type="checkbox"/> Examination fee (37 CFR 1.492(c)) If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4).....\$0 All other situations.....\$200					
23. <input checked="" type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4).....\$0 Search fee [37 CFR 1.445(a)(2)] has been paid on the international application to the USPTO as an International Searching Authority.....\$100 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB .....\$400 All other situations.....\$500					
TOTAL OF 21, 22 and 23=				\$300.00	
<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.					
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE		
162 - 100 =	62 /50	1.24 = 2	X \$250.00	\$500.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date [37 CFR 1.492(e)].					
CLAIMS		NUMBER FILED	NUMBER EXTRA	RATE	
Total Claims		42 - 20 =	22	X \$50.00	\$1,100.00
Independent Claims		13 - 3 =	10	X \$200.00	\$2,000.00
MULTIPLE DEPENDENT CLAIM(S) (if applicable)				+ \$360.00	
TOTAL OF ABOVE CALCULATIONS (SUBTOTAL)				=	\$3,900.00
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				+	
TOTAL NATIONAL FEE				=	\$3,900.00
Fee for recording the enclosed assignment [37 CFR 1.21(h)]. The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) \$40.00 per property.				+	
TOTAL FEES ENCLOSED				=	\$3,900.00
				Amount to be refunded:	
				Amount to be charged:	
<p>a. <input type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed.</p> <p>b. <input checked="" type="checkbox"/> Please charge my Deposit Account No. <u>13-2755</u> in the amount of <u>\$3,900.00</u> to cover the above fees. A duplicate copy of this sheet is enclosed.</p> <p>c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to the Deposit Account No. <u>13-2755</u>. A duplicate copy of this sheet is enclosed.</p> <p><b>NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive [37 CFR 1.137(a) or (b)] must be filed and granted to restore the International Application to pending status.</b></p> <p>SEND ALL CORRESPONDENCE TO:  <div style="border: 1px solid black; padding: 2px; display: inline-block;">Customer No. 000210</div>  <b>MERCK &amp; CO., INC.</b>  Patent Department, RY60-30  P.O. Box 2000  126 East Lincoln Avenue  Rahway, New Jersey 07065-0970</p>					
DATE: <u>July 24, 2006</u>				SIGNATURE 	
PHONE #: <u>(732) 594-5738</u>				NAME <u>Patricia L. Chisholm</u>	
				REGISTRATION NUMBER <u>45,822</u>	

**Page 1A of TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING  
A FILING UNDER 35 U.S.C. 371**

**Attorney Docket No.:** ITR0048YP  
**International Appln No.:** PCT/EP2005/000558  
**International Filing Date:** JANUARY 18, 2005  
**Priority Date:** JANUARY 23, 2004  
**Title:** CHIMPANZEE ADENOVIRUS VACCINE CARRIERS

**Inventors:** Stefano Colloca, Alfredo Nicosio, Elisabetta Sporeno,  
Agostino Cirillo, Bruno Bruni Ercole, Annalisa Meola

**EXPRESS MAIL CERTIFICATE**

**DATE OF DEPOSIT** July 24, 2006

**EXPRESS MAIL NO.** EV321988999US

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING  
DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS  
EXPRESS MAIL "POST OFFICE TO ADDRESSEE" ON THE ABOVE  
DATE IN AN ENVELOPE ADDRESSED TO COMMISSIONER FOR  
PATENTS P.O. BOX 1450, ALEXANDRIA, VIRGINIA 22313-1450.

**MAILED BY** Linda Zher **DATE** July 24, 2006

# **Exhibit B-1**

## **Sequence Requirement Statement**

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Colloca, Stefano, *et al.*

Serial No.: To Be Assigned

Case No.: ITR0048YP

Art Unit: To be assigned

Filed On Even Date Herewith

Examiner: To be assigned

For: CHIMPANZEE ADENOVIRUS VACCINE  
CARRIERSCommissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

JUL 24 2006

SEQUENCE REQUIREMENT STATEMENT

Sir:

I hereby state that the contents of the paper and computer readable copies of the enclosed Sequence Listing, submitted in accordance with 37 C.F. R. § 1.821(c) and (e), respectively, are the same.

Respectfully submitted,

By Patricia L. Chisholm  
Patricia L. Chisholm  
Reg. No. 45,822  
Attorney for ApplicantsMerck & Co., Inc.  
P.O. Box 2000  
Rahway, NJ 07065-0907  
(732) 594-5738Date: July 24, 2006

## EXPRESS MAIL CERTIFICATE

DATE OF DEPOSIT July 24, 2006  
EXPRESS MAIL NO. EP 3219857715  
I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS  
BEING DEPOSITED WITH THE UNITED STATES POSTAL  
SERVICE AS EXPRESS MAIL "POST OFFICE TO ADDRESSEE"  
ON THE ABOVE DATE IN AN ENVELOPE ADDRESSED TO  
COMMISSIONER FOR PATENTS, P.O. BOX 1450,  
ALEXANDRIA, VIRGINIA 22313-1450.  
MAILED BY Sixda Zhrer  
DATE July 24, 2006

## **Exhibit C-1**

# **Information Disclosure Statement Under 37 C.F.R. 197**

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Stefano Colloca, Alfredo Nicosio, Elisabetta  
Sproeno, Agostino Cirillo, Bruno Bruni Ercole,  
Annalisa Meola

Serial No. To be assigned

Filed: Herewith

For: CHIMPANZEE ADENOVIRUS VACCINE CARRIERS

Art Unit: To be assigned

Examiner: To be assigned

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

JUL 24 2006

INFORMATION DISCLOSURE STATEMENT  
UNDER 37 CFR 1.97

Sir:

1. In compliance with 37 C.F.R. 1.97, submitted on the attached form herewith is a list of patents, publications or other information which are requested to be made of record in this application. This Information Disclosure Statement is not an admission that any patent, publication or other information referred to herein is "prior art" for this invention. In accordance with 37 C.F.R. 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. 1.56(b).

2. In accordance with 37 C.F.R. 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made.

3. Applicants respectfully request that the Examiner initial the attached form after reviewing the pertinence of each reference.

4. Pursuant to 37 C.F.R. 1.98 (a)(2)(ii), copies of each cited U.S. patent and each U.S. patent application publication are not enclosed herewith.

## EXPRESS MAIL CERTIFICATE

DATE OF DEPOSIT July 24, 2006

EXPRESS MAIL NO. EV3219898116

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS  
BEING DEPOSITED WITH THE UNITED STATES POSTAL  
SERVICE AS EXPRESS MAIL "POST OFFICE TO ADDRESSEE"  
ON THE ABOVE DATE IN AN ENVELOPE ADDRESSED TO  
COMMISSIONER FOR PATENTS, P.O. BOX 1450,  
ALEXANDRIA, VIRGINIA 22313-1450.

MAILED BY Sandra Zeller

DATE July 24, 2006

**INFORMATION DISCLOSURE STATEMENT**

5. Pursuant to 37 C.F.R. 1.98(d), copies of references listed on the attached form that were submitted to or cited by the Office in a related application upon which the instant application relies for an earlier filing date under 35 U.S.C. 120 are not enclosed. Related application(s) in which references were submitted to or cited by the Office are as follows:

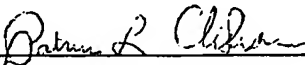
RELATED APPLICATION		
U. S. SERIAL NUMBER	FILING DATE	MERCK CASE

If this is inconvenient, additional copies will be submitted upon request.

6. In accordance with 37 C.F.R. 1.97, (check one)

- ☒ the attached information is filed within three months of the filing date of the captioned case.
- ☐ the attached information is filed more than three months after the filing date but prior to the mailing of a first Office Action on the merits.
- ☐ the attached information is filed before the mailing of a first Office action after the filing of a request for continued examination under §1.114.
- ☐ the attached information is being filed more than three months after the filing date and after the mailing of a first Office Action on the merits, but before the mailing date of a Final Action, Notice of Allowance, or an action that otherwise closes prosecution in the application. The enclosed authorization is therefore given to charge Deposit Account No. 13-2755 for the fee required under 37 C.F.R. 1.17(p).
- ☐ each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement.
- ☐ each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart application *and this communication was not received by any individual designated in §1.56(c) more than thirty days prior to the filing of the information disclosure statement.*
- ☐ no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated under 37 C.F.R. 1.56(c) more than three months prior to the filing of this Statement.

Respectfully submitted,



By: Patricia L. Chisholm  
Attorney \_\_\_\_\_ For Applicant(s)

Reg. No. 45,822  
MERCK & CO., INC.  
Patent Dept., RY60-30  
P.O. Box 2000  
Rahway, N.J. 07065-0907  
(732)594-5738

Date: July 24, 2006



## **Exhibit D-1**

**“Customer Copy” of the  
Express Mail Receipt**

# EXHIBIT D-1



EV 321988999 US



UNITED STATES POSTAL SERVICE®

Customer Copy

Label 11-F June 2002

Post Office To Addressee

## ORIGIN (POSTAL USE ONLY)

PO ZIP Code 07067	Day of Delivery <input checked="" type="checkbox"/> Next <input type="checkbox"/> Second	Flat Rate Envelope <input type="checkbox"/>
Date in Mo. Day Year 7 21 06	<input checked="" type="checkbox"/> 12 Noon <input type="checkbox"/> 3 PM	Postage \$ 44.10
Time in <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM 6:30	Military <input type="checkbox"/> 2nd Day <input type="checkbox"/> 3rd Day	Return Receipt Fee
Weight 13.5 lbs. ozs.	Int'l Alpha Country Code	COD Fee Insurance Fee
No Delivery <input type="checkbox"/> Weekend <input type="checkbox"/> Holiday	Acceptance Clerk Initials [Signature]	Total Postage & Fees \$ 44.10

## DELIVERY (POSTAL USE ONLY)

Delivery Attempt	Time	Employee Signature
Mo. Day	<input type="checkbox"/> AM <input type="checkbox"/> PM	
Delivery Attempt	Time	Employee Signature
Mo. Day	<input type="checkbox"/> AM <input type="checkbox"/> PM	
Delivery Date	Time	Employee Signature
Mo. Day	<input type="checkbox"/> AM <input type="checkbox"/> PM	

☐ **WAIVER OF SIGNATURE (Domestic Only)** Additional merchandise insurance is void if waiver of signature is requested. (Wish delivery to be made without obtaining signature of addressee or addressee's agent. If delivery employee judges that article can be left in secure location and I authorize that delivery employee's signature constitutes valid proof of delivery.)

☐ **NO DELIVERY** ☐ Weekend ☐ Holiday

## CUSTOMER USE ONLY

METHOD OF PAYMENT: Express Mail Corporate Acct. No. X070505

Federal Agency Acct. No. or Postal Service Acct. No.

FROM: (PLEASE PRINT) PHONE (732) 594-5736

MERCK & CO., INC.  
PATENT DEPARTMENT RY60-30  
PO BOX 2000  
RAHWAY NJ 07065-0900

Patricia L. Chisholm  
ITRC048YP US National

TO: (PLEASE PRINT) PHONE

MAIL STOP  
COMMISSIONER FOR PATENTS  
PO BOX 1450  
ALEXANDRIA VA 22313-1450

PRESS HARD.  
You are making 3 copies.

FOR PICKUP OR TRACKING CALL 1-800-222-1811 www.usps.com



# **Exhibit E-1**

## **Postcard**

# EXHIBIT E-1

PLC

#TR0048YP

THE PATENT & TRADEMARK OFFICE ACKNOWLEDGES, AND HAS  
STAMPED HEREON, THE DATE OF THE RECEIPT AND THE ASSIGNED  
SERIAL NUMBER OF THE FOLLOWING PATENT APPLICATION:

CASE NUMBER	DATE	ATTORNEY	EXPRESS MAIL <input checked="" type="checkbox"/>
ITR0048YP	July 24, 2006	Patricia L. Chisholm	EV32198899945
TITLE <b>IAP6 Rec'd PCT/PTO 25 JUL 2006</b> <b>CHIMPANZEE ADENOVIRUS VACCINE CARRIERS</b>			
INVENTORS <b>Stefano Celica, Alfredo Nicastro, Elisabetta Spreafico, Agostino Cirillo, Bruno Bruni Ercole, Annalisa Nicole</b>			
NO. OF PAGES —	NO. OF CLAIMS <b>42 claims</b>	PAGES OF DRAWING <b>10/587389</b> <b>25 2006</b>	
DECLARATIONS <b>Transmittal, IDS + 22 references, Sequence Statement, Sequence disk, Sequence Paper copy (193pgs)</b>		ACCOUNT CHARGES <b>13 - 2755</b> <b>\$3,900.00</b>	

F1071.3 REV.9/93 Declaration and Power of Attorney